November 16, 2023

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: California Independent System Operator Corporation
Compliance Filing to Reconcile Overlapping
Commission-Approved Tariff Records

Docket No. ER24-____-000

Dear Secretary Bose:

The California Independent System Operator Corporation ("CAISO") submits this compliance filing to reconcile overlapping tariff records in the Commission's eTariff system, in order to reflect revisions to the same sections of the CAISO tariff the Commission has accepted in different proceedings. The CAISO does not propose any changes to Commission-approved tariff language in this filing.

The CAISO requests that the Commission accept the reconciled tariff record contained in this filing effective as of the latest effective date previously approved by the Commission, July 1, 2023. The Commission has accepted similar compliance filings to reconcile overlapping Commission-approved tariff records in the past[1] and the CAISO requests the Commission do the same here.

I. Background

The CAISO has identified one instance where CAISO tariff record on file in the Commission's eTariff system does not accurately reflect the cumulative result of the Commission's orders across the various proceedings, although individually they accurately reflect revisions to tariff sections approved by the Commission in the separate and successive proceedings in which they were filed. This situation arose due to the chronological sequence in which the tariff records were filed in the different

[1] *See, e.g.*, *Cal. Indep. Sys. Operator Corp.*, Commission letter order, Docket No. ER16-2701-000 (Nov. 18, 2016); *Cal. Indep. Sys. Operator Corp.*, Commission letter order, Docket No. ER20-1281-001 (July 31, 2020); *Cal Indep. Sys. Operator Corp.,* Commission letter order, Docket No. ER21-1304-001 (Aug. 18, 2021); *Cal. Indep. Sys. Operator Corp.*, Commission letter order, Docket No. ER23-1099-000 (Apr. 6, 2023).

proceedings and then acted on by the Commission. From the time the CAISO files a tariff amendment to the time the Commission issues an order accepting it as of a specified effective date, several months or more may pass, especially if the Commission conditions its acceptance on the filing of revisions to certain portions of the original proposed amendment in a compliance filing. Sometimes the CAISO files tariff amendments in which some of the proposed tariff revisions include changes that affect tariff records that are the subject of pending tariff amendments that the Commission has not yet addressed.[2] In such circumstances, the CAISO will reconcile the tariff records at a later date after the Commission has issued the relevant orders.

II. Proposed Reconciliation

The CAISO proposes to reconcile the tariff records in Sections 39. Overlapping tariff records resulted from the following proceedings:

Section 39.7.1: Calculation of Default Energy Bids

- Docket No. ER23-474, in which the CAISO modified its tariff to allow in-state Washington resources to reflect the costs of greenhouse gas (GHG) compliance associated with Washington's cap-and-invest program in their default energy bids and commitment costs. The CAISO made the initial filing on November 21, 2022, and the Commission accepted the tariff amendment on April 20, 2023. This filing took effect on May 1, 2023.
- Docket No. ER23-1533, in which the CAISO implemented the first phase of the CAISO's energy storage enhancements initiative. The CAISO made the initial filing on March 31, 2023, and the Commission accepted the tariff amendment on June 1, 2023. This filing took effect on two different dates, but this specific record took effect on July 1, 2023.

This compliance filing rectifies the situations described above by providing a conformed tariff record that reflects the cumulative result of both Commission-approved tariff records for the aforementioned tariff section. This filing ensures the eTariff system reflects all approved tariff amendments and the records on the system are consistent with the conformed tariff posted on the CAISO website. The filing also satisfies the specific requirements of the Commission orders in the proceedings that accepted the provisions included in the conformed tariff record. The CAISO does not propose any changes to the Commission-approved tariff language in this filing.

[2] The overlapping records do not always affect the same subsections. The eTariff system requires the CAISO to submit complete tariff records for any proposed tariff amendments. Thus, in cases where amendments are made to a tariff section with subsections, all subsections must be included, even if amendments are not proposed to the language. When there are overlapping filings with similar effective dates, this can cause outdated eTariff records even if the filings address different tariff sections.

Attachment A to this filing contains the clean tariff section showing the full text of the reconciled tariff record once all the conforming changes made by this filing are incorporated. Attachment B to this filing contains the marked redline tariff section showing the revisions made to the effective tariff record currently on file in order to fully reflect all Commission-approved language therein.

The CAISO requests that the Commission accept the reconciled tariff records contained in this filing effective as of the latest effective date previously approved by the Commission, July 1, 2023.

III. Communications

The CAISO requests that all correspondence, pleadings, and other communications regarding this filing be served upon:

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Counsel
California Independent System
Operator Corporation
250 Outcropping Way
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Tel: (916) 956-8838
Fax: (916) 608-7222
E-mail: skozal@caiso.com

IV. Service

The CAISO has served copies of this filing on the California Public Utilities Commission, the California Energy Commission, and all parties with Scheduling Coordinator Agreements under the CAISO tariff. In addition, the CAISO has posted a copy of the filing on the CAISO website.

V. Conclusion

For the reasons explained above, the CAISO requests that the Commission accept the reconciled tariff records contained in this compliance filing.

Respectfully submitted,

/s/ Sarah E. Kozal
Roger E. Collanton
General Counsel
Anthony Ivancovich
Deputy General Counsel
Andrew Ulmer
Assistant General Counsel
Sarah E. Kozal
Counsel

Counsel for the California Independent
System Operator Corporation

Attachment A – Clean Tariff

Reconciliation Filing of FERC-Approved Tariff Records

California Independent System Operator Corporation

November 16, 2023

Section 39

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39.7.1 Calculation of Default Energy Bids

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39.7.1.1 Variable Cost Option

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39.7.1.1.1 Incremental Cost Calculation Under the Variable Cost Option

39.7.1.1.1.1 Natural Gas-Fired Resources

(a) Calculation of incremental fuel cost - For natural gas-fueled units, incremental fuel cost is calculated based on an incremental heat rate curve multiplied by the natural gas price calculated as described below.

Resource owners shall submit to the CAISO average heat rates (Btu/kWh) measured for at least two (2) and up to eleven (11) generating operating points (MW), where the first and last operating points refer to the minimum and maximum operating levels (i.e., PMin and PMax), respectively. The average heat rate curve formed by the (Btu/kWh, MW) pairs is a piece-wise linear curve between operating points, and two (2) average heat rate pairs yield one (1) incremental heat rate segment that spans two (2) consecutive operating points. The incremental heat rates (Btu/kWh) in the incremental heat rate curve are calculated by converting the average heat rates submitted by resource owners to the CAISO to requirements of heat input (Btu/h) for each of the operating points and dividing the changes in requirements of heat input from one (1) operating point to the

next by the changes in MW between two (2) consecutive operating points as specified in the Business Practice Manual. For each segment representing operating levels below eighty (80) percent of the unit's PMax, the incremental heat rate is limited to the maximum of the average heat rates for the two (2) operating points used to calculate the incremental heat rate segment.

The unit's final incremental fuel cost curve is calculated by multiplying this incremental heat rate curve by the applicable natural gas price, and then, if necessary, applying a left-to-right adjustment to ensure that the final incremental cost curve is monotonically non-decreasing. Heat rate and cost curves shall be stored, updated, and validated in the Master File.

(b) Calculation of greenhouse gas cost adder - For each natural gas-fired resource registered with the California Air Resources Board or the Washington Department of Ecology as having a greenhouse gas compliance obligation, the CAISO will calculate a greenhouse gas cost adder as the product of the resource's incremental heat rate, the greenhouse gas emissions rate authorized by the California Air Resources Board or the Washington Department of Ecology, and the applicable Greenhouse Gas Allowance Price.

(c) Calculation of volumetric Grid Management Charge adder - For each natural gas-fired resource, the CAISO will include a volumetric Grid Management Charge adder that consists of: (i) the Market Services Charge; (ii) the System Operations Charge; and (iii) the Bid Segment Fee divided by the MW in the Bid segment.

39.7.1.1.1.2 Non-Natural Gas-Fired Resources

For non-natural gas-fueled units, incremental fuel cost is calculated based on an average cost curve as described below.

Resource owners for non-natural gas-fueled units shall submit to the CAISO average fuel or fuel equivalent costs ($/MW) measured for at least two (2) and up to eleven (11) generating operating points (MW), where the first and last operating points refer to the minimum and maximum operating levels (i.e., PMin and PMax), respectively. The average cost curve formed by the ($/MWh, MW) pairs is a piece-wise

linear curve between operating points, and two (2) average cost pairs yield one (1) incremental cost segment that spans two (2) consecutive operating points. For each segment representing operating levels below eighty percent (80%) of the unit's PMax, the incremental cost rate is limited to the maximum of the average cost rates for the two (2) operating points used to calculate the incremental cost segment. The unit's final incremental fuel cost curve is then adjusted, if necessary, applying a left-to-right adjustment to ensure that the final incremental cost curve is monotonically non-decreasing. The CAISO will include, if applicable: (i) greenhouse gas allowance costs for each non-natural gas-fired resource registered with the California Air Resources Board or the Washington Department of Ecology as having a greenhouse gas compliance obligation, as provided to the CAISO by the Scheduling Coordinator for the resource; (ii) variable operation and maintenance cost; and (iii) a volumetric Grid Management Charge adder that consists of: (a) the Market Services Charge; (b) the System Operations Charge; and (c) the Bid Segment Fee divided by the MW in the Bid segment. Cost curves shall be stored, updated, and validated in the Master File.

39.7.1.1.1.3 Calculation of Natural Gas Price

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39.7.1.1.1.4 Calculation of Greenhouse Gas Allowance Price

The CAISO will calculate the Greenhouse Gas Allowance Price separately for each unlinked jurisdiction that regulates greenhouse gas compliance obligations. To calculate the Greenhouse Gas Allowance Price for each unlinked jurisdiction, the CAISO will average two prices from the following vendors: the Intercontinental Exchange and ARGUS. If a greenhouse gas price from a vendor is unavailable for any reason, the CAISO will use the most recent available greenhouse gas price from that vendor. If greenhouse gas prices from these vendors have not yet been calculated for a jurisdiction, the CAISO will utilize the best available proxy, as follows: for Washington State, the CAISO will utilize $41/MT CO2e until an allowance auction is held by the State of Washington, at which point the CAISO will use, as soon as is practicable, the most recent allowance auction clearing price. If for any reason the CAISO cannot calculate a Greenhouse Gas Allowance Price, it will use the most recently calculated value.

The CAISO will update the Greenhouse Gas Allowance Price by approximately 22:00 Pacific Time each day (T). The daily Greenhouse Gas Allowance Price will be used in the next day's Real-Time Market (T+1) and in the Day-Ahead Market for the following Trading Day (T+2). The CAISO will calculate each Greenhouse Gas Allowance Price during a year using prices for greenhouse gas allowances from that same year.

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39.7.1.8 Storage Resource Option

For storage resources participating as Non-Generator Resources, the storage resource option will calculate the Default Energy Bid by selecting the maximum of (1) the sum of the expected energy cost and the variable storage operation cost and, (2) the storage opportunity cost. The calculation is completed by adding ten percent (10%) to the value. To calculate the Default Energy Bid, the CAISO will use the PMin, PMax, Run Times, and other charging and discharging parameters registered in the Master File.

The expected energy cost represents the average cost to procure the amount of energy needed to charge the resource during the lowest-priced continuous block of time such that the resource can discharge completely, accounting for the resource's charging duration and round-trip efficiency, and excluding losses. To calculate this component in the Day-Ahead Market, the CAISO will use the average price of Energy during the lowest priced hours based upon the final Energy Supply Bids from the MPM process at the relevant PNode, not to be below $0/MWh. To calculate this component in the Real-Time Market, the CAISO will use the average price of Energy during the lowest priced hours based upon the LMP from the IFM at the relevant PNode on the Trading Day, not to be below $0/MWh.

The variable storage operation cost represents the variable costs of operating a storage resource beyond its designed daily cycling range, submitted by the Scheduling Coordinator in $/MWh. The CAISO will validate the storage operation cost based on manufacturer warranty, available data, and supporting documentation submitted by the Scheduling Coordinator. The storage opportunity cost represents the

opportunity cost of being dispatched during lower-priced intervals, equal to the cost of Energy the resource could discharge during the highest-priced continuous block, accounting for the resource's discharge duration. To calculate this component in the Day-Ahead Market, the CAISO will use the lowest price of Energy during the highest priced period over which the resource could have discharged, based upon advisory prices from the Market Power Mitigation process at the relevant PNode. To calculate this component in the Real-Time Market, the CAISO will use the lowest price of Energy during the highest priced period over which the resource could have discharged, based upon the LMP from the IFM at the relevant PNode on the Trading Day.

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Attachment B – Marked Tariff

Reconciliation Filing of FERC-Approved Tariff Records

California Independent System Operator Corporation

November 16, 2023

Section 39

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39.7.1 Calculation of Default Energy Bids

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39.7.1.1 Variable Cost Option

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39.7.1.1.1.3 Calculation of Natural Gas Price

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39.7.1.8 Storage Resource Option

For storage resources participating as Non-Generator Resources, the storage resource option will calculate the Default Energy Bid by selecting the maximum of (1) the sum of the expected energy cost and the variable storage operation cost and, ~~in the RTM,~~ (2) the storage opportunity cost. The calculation is completed by adding ten percent (10%) to the value. To calculate the Default Energy Bid, the CAISO will use the PMin, PMax, Run Times, and other charging and discharging parameters registered in the Master File.

The expected energy cost represents the average cost to procure the amount of energy needed to charge the resource during the lowest-priced continuous block of time such that the resource can discharge completely, accounting for the resource's charging duration and round-trip efficiency, and excluding losses. To calculate this component in the Day-Ahead Market, the CAISO will use the average price of Energy during the lowest priced hours based upon the final Energy Supply Bids from the MPM process at the relevant PNode, not to be below $0/MWh. To calculate this component in the Real-Time Market, the CAISO will use the average price of Energy during the lowest priced hours based upon the LMP from the IFM at the relevant PNode on the Trading Day, not to be below $0/MWh.

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